

THE HANDBOOK

of Missouri Boating Laws and
Responsibilities

Emergency
Hotline
1-800-525-5555
or *55 cellular



2023
Edition

NOW!

Missouri boaters have three ways to become certified in boating safety. By becoming certified, you will have a safer, more enjoyable experience on the water, and you may save money on vessel insurance.



A Course on Responsible Boating

1. By video...

You and your family can take this boater education course in the convenience of your home aided by an informative video and an instruction manual. Study and learn at your own speed. Upon successful completion of the mail-in test, you will receive a Missouri boating safety certificate.

Call 1-800-830-2268 for information

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Learn what you need to be a safe boat operator online! The complete course with exciting visuals awaits you on the Internet. Interactive graphics help you learn and retain information on boating safely in Missouri. Successfully complete the online test, and you will receive a State of Missouri boating safety certificate by mail.

Start today at www.boat-ed.com/missouri

3. In a classroom...

Share the learning experience with other interested students and a qualified instructor. Check the Missouri State Highway Patrol's website for a list of upcoming classes at mshp.dps.missouri.gov/WP02Web/app/safetyEdClasses.

For education information, call 573-751-5071

For emergencies, call 1-800-525-5555 or *55 cellular

Missouri State Highway Patrol

P.O. Box 568

Jefferson City, MO 65102

Everything you need to know about boating in Missouri



is just a **CLICK** away!

Missouri State Highway Patrol

1510 East Elm Street • Jefferson City, MO 65101

P.O. Box 568 • Jefferson City, MO 65102

For information, see the Troop List

For emergency, call 1-800-525-5555 or *55 cellular

Missouri State Highway Patrol Home Page

statepatrol.dps.mo.gov

Water Patrol Division Home Page

apps.mshp.dps.mo.gov/MSHPWeb/WaterPatrol/index.html

Boating Information

BoatInfo@mshp.dps.mo.gov

Safety Education

BoatEducation@mshp.dps.mo.gov

Applicants requesting information regarding documenting a vessel with the U.S. Coast Guard should contact

U.S. Coast Guard

National Vessel Documentation Center

792 TJ Jackson Drive, Falling Waters, West Virginia 25419-9502

1-800-799-8362 or 304-271-2400

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THE HANDBOOK

of Missouri Boating Laws and Responsibilities

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The basic information that every vessel operator needs to know in order to have a boating experience that is both safe and enjoyable

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It's the Law!

Whatever kind of vessel you are operating, you must know and obey these Missouri boating laws.

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Missouri State Highway Patrol and You

Programs and Services

The Missouri State Highway Patrol has the responsibility of patrolling the major waterways in Missouri.

These include:

- 272,770 acres of lakes with 5,500 miles of shoreline
- 519 miles of the Mississippi River
- 533 miles of the Missouri River
- All the tributaries of these waterways



Boater Education

To reduce boating accidents and related fatalities, the Patrol provides boater education programs for children and adults. They are taught by Highway Patrol troopers throughout the year. Missouri requires anyone born after January 1, 1984, to have a boating safety certification approved by the Missouri State Highway Patrol in order to operate a boat or personal watercraft on the lakes of the state. Persons who possess a U.S. Coast Guard or Power Squadron boating course certificate may apply for a certification card issued by the Missouri State Highway Patrol.

Flood Duty

The Patrol provides a variety of services during floods. These services include rescue, evacuation, and security as well as many others. The division works closely with the State Emergency Management Agency and any other agency requesting assistance.

Water Pollution

The Patrol monitors rivers and lakes to advise the Department of Natural Resources of any pollutants that might be contaminating state waters.

Dive Team

The Missouri State Highway Patrol Dive Team is fully trained and equipped for recovery operations. Drownings, boating accident fatality victims, criminal evidence from felony crimes, vehicles, and explosive materials are just some of the reasons for conducting dives. Divers are located throughout the state to ensure a timely response to dive sites.

Assistance to Other Agencies

The Patrol frequently assists local, state, and federal agencies during emergency situations. Highway Patrol troopers, due to their extensive training requirements, have full police authority and can respond to requests for assistance by any sheriff or chief of police.

Other Services

Other services provided by the Patrol are:

- Providing safety exhibits and inspecting safety equipment in vessels
- Investigating water-related crashes
- Administering first aid
- Investigating complaints and criminal activities, and assisting other law enforcement departments
- Permitting regattas, races, fishing tournaments, skiing exhibitions, and other water-related events
- Authorizing placement of navigation buoys and investigating navigational obstructions

Contacting the Missouri State Highway Patrol

P.O. Box 568
Jefferson City, MO 65102
Emergency: 1-800-525-5555
or *55 cellular

Water Patrol Division: 573-751-5071

Email: BoatInfo@mshp.dps.mo.gov

See Troop List toward the end of this handbook.

- Information
- Comments
- Complaints
- Suggestions

Safety Inspections

The Missouri State Highway Patrol inspects thousands of vessels annually. A safety inspection determines that equipment complies with state law. A safety inspection involves the following:



- The certificate of number (registration card) for the vessel is checked to determine if the registration is current.
- The registration number display is checked to determine if number spacing, height, block style, and contrasting color requirements are correct.
- Personal flotation devices are checked for accessibility, serviceability, proper size, quantity, and type.
- Sound-producing devices are checked for operability. Bells are checked for vessels 40 feet and over in length.
- Fire extinguishers are checked for proper type, size, and adequate charge.
- Ventilation systems are checked for functional operation.
- Mufflers are checked to determine compliance with sound level requirements, when applicable.
- When marine toilets are on board, they are inspected for proper storage of waste materials.
- Outboard motors are checked for the registration decal and motor serial number.
- Navigation lights are checked to make sure the colored lenses are in the correct positions. Navigation lights are not required to pass a safety inspection, unless you intend to operate your vessel after sunset.

Upon successful completion of a safety inspection, the vessel owner is awarded a safety inspection decal that signifies compliance with Missouri boating equipment requirements. This decal is affixed by the Highway Patrol trooper immediately behind the registration number display on the port (left) side of the vessel.

History

Created in 1931, the authorized strength of the Patrol was established at 125 uniformed officers; however, due to limited appropriations, only 55 patrolmen were trained for active duty. The Patrol has evolved from primarily enforcing traffic laws to a full-service, accredited law enforcement agency. In 1992, the Missouri State Highway Patrol became only the 10th state police/highway patrol to receive accreditation from the Commission on Accreditation for Law Enforcement Agencies.



In 2010, legislation was passed to merge the Missouri State Water Patrol as the Highway Patrol's 20th division, to be known as the Water Patrol Division. Some of the other divisions include Gaming Division, Drug and Crime Control Division, Crime Lab Division, and Commercial Vehicle Enforcement Division. The Water Patrol began in 1959 as the Missouri Boat Commission and in 1961 consisted of eight officers. The Missouri State Highway Patrol has grown from 55 officers in 1931 to a force of over 1,180 uniformed members and 1,144 uniformed civilian and support personnel. Even though the complexity of its duties has expanded tremendously over the years, the primary mission of the Patrol has not changed. Enforcing traffic laws and promoting safety on our state's highways and waterways is still the primary mission of the Missouri State Highway Patrol.

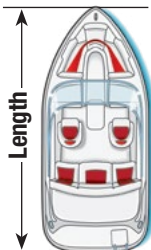
Before Going Out

Before going out on the water, take steps to make the outing safe and enjoyable.

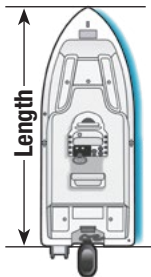
Vessel Length Classes

- A vessel's length class determines the equipment necessary to comply with federal and state laws.
- Vessels are divided into classes by length:
 - Class A: Less than 16 feet
 - Class 1: 16 feet to less than 26 feet
 - Class 2: 26 feet to less than 40 feet
 - Class 3: 40 feet and over
- Length is measured from the tip of the bow in a straight line to the stern. This does not include outboard motors, brackets, rudders, bow attachments, or swim platforms and ladders that are not a molded part of the hull.

Inboards



Outboards



Vessel Capacity

- Always check the capacity plate, which is usually found near the operator's position or on the vessel's transom. This plate indicates the maximum weight capacity and maximum number of people that the vessel can carry safely.
- Personal watercraft (PWC) and some other vessels are not required to have a capacity plate. Always follow the recommended capacity in the owner's manual and on the manufacturer's warning decal.

Fueling a Vessel

Never fuel at night unless it is an emergency. If you must refuel after dark, use only electric lights. Try to refuel away from the water or on a commercial fueling ramp.

■ Before beginning to fuel:

- Dock the boat securely, and ask all passengers to exit.
- Do not allow anyone to smoke or strike a match.
- Check all fuel lines, connections, and fuel vents.
- Turn off anything that might cause a spark—engines, fans, or electrical equipment.

- Shut off all fuel valves, and extinguish all open flames, such as galley stoves and pilot lights.
- Close all windows, ports, doors, and other openings to prevent fumes from entering the boat.
- Remove portable fuel tanks and fill them on the dock.

■ **While filling the fuel tank:**

- Keep the nozzle of the fuel-pump hose in contact with the tank opening to prevent producing a static spark.
- Avoid spilling fuel into the boat's bilge or the water.
- Never fill a tank to the brim—leave room to expand.
- Wipe up any spilled fuel.

The most important safe fueling practice...

If your vessel is equipped with a power ventilation system, turn it on for at least four minutes both after fueling and before starting your engine to remove gas vapors in the bilge.

■ **After fueling:**

- Open all windows, ports, doors, and other openings.
- Before starting the engine, sniff the bilge and engine compartment for fuel vapors.

Additional Safety Procedures for PWC

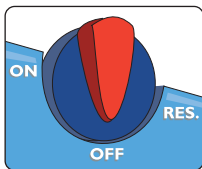
- Do not tip the PWC in order to fill it all the way up. If the tank is overfilled, the fuel may expand and spill into the water.
- After fueling, open the door of the engine compartment, and sniff to check for any evidence of gas fumes. Do this before starting the engine. If you do smell gas fumes, determine the source, and make repairs immediately.



Fuel Selector Switch on a PWC

This switch can help you avoid becoming stranded without fuel.

- Use the “Off” position when the PWC’s engine is turned off.
- Use the “On” position while you are underway.
- Use the “Reserve” position if you run out of fuel while underway. This will allow you to return to shore. Don’t forget to switch back to “On” after refueling.



Backfire Flame Arrestors

- Because engines may backfire, all motorboats (except outboards) that are fueled with gasoline must have a U.S. Coast Guard (USCG)–approved backfire flame arrestor on each carburetor.
- Periodically clean the flame arrestor, and check for damage.

Marine Theft Prevention

Defend against theft of your vessel and equipment.

- Store your vessel so that it is not easily accessed.
 - Store your vessel and trailer in a locked garage or storage area.
 - Park another vehicle in front of the trailer, or lock the trailer to a fixed object in a well-lit area.
 - Secure the vessel and trailer to a fixed object with a good-quality chain and lock. If moored, secure the vessel to the dock with a steel cable and lock.
 - Remove a trailer wheel if parked for an extended time.
 - Purchase a quality trailer hitch lock, and use it.
- Chain and lock the motor and fuel tanks to the vessel.
- Mark or engrave all equipment with an identifier, such as your driver’s license number.
- Photograph or videotape the interior and exterior of your vessel, showing all installed equipment and additional gear and equipment. Make a complete inventory of your equipment, vessel, and trailer.

- Remove expensive electronics or other valuables if the vessel is left unattended.
- Cover your vessel, and always remove the keys.
- Title and register your vessel.

Filing a Float Plan

Before going out on a vessel, it is always a good idea to leave a float plan with a relative or friend. A float plan should:

- Describe the vessel, including its registration number, length, make, horsepower, and engine type.
- State where you are going, the detailed route, your planned departure time, and your expected return time.
- Give the name, address, and telephone number of each person on board and an emergency contact.

Pre-Departure Checklist

You can help ensure a good time while operating your vessel by performing this pre-departure check.

- ✓ Check the weather forecast for the area and time frame during which you will be boating.
- ✓ Make sure that the steering and throttle controls operate properly and all lights are working properly.
- ✓ Check for any fuel leaks from the tank, fuel lines, and carburetor.
- ✓ Check the engine compartment for oil leaks.
- ✓ Check hose connections for leaks or cracks, and make sure hose clamps are tight.
- ✓ Drain all water from the engine compartment, and be sure the bilge plug is replaced and secure.
- ✓ Check to be sure you have a fully charged engine battery and fire extinguishers.
- ✓ If so equipped, make sure the engine cut-off switch (ECOS) and wrist lanyard are in good order.
- ✓ Make sure you have the required number of personal flotation devices (PFDs), and check that they are in good condition and the proper sizes.
- ✓ Leave a float plan with a reliable friend or relative.

On the Water

Safe navigation on Missouri waterways is everyone's responsibility. All operators are equally responsible for taking action necessary to avoid collisions.

Encountering Other Vessels

Even though no vessel has the "right-of-way" over another vessel, there are some rules that every operator should follow when encountering other vessels. It is the responsibility of both operators to take whatever action is needed to avoid a collision. The next page shows what to do when encountering another vessel.

To prevent collisions, every operator should follow the three basic rules of navigation.

- Practice good seamanship.
- Keep a sharp lookout.
- Maintain a safe speed and distance.

Encountering Vessels With Limited Maneuverability

- When operating a power-driven vessel, you must give way to:
 - Any vessel not under command, such as an anchored or disabled vessel
 - Any vessel restricted in its ability to maneuver, such as a vessel towing another or laying cable, or one constrained by its draft, such as a large ship in a channel
 - A vessel engaged in commercial fishing
 - A sailboat under sail unless it is overtaking
 - A canoe or other vessel powered by paddles or oars alone
- When operating a vessel under sail, you must give way to:
 - Any vessel not under command
 - Any vessel restricted in its ability to maneuver
 - A vessel engaged in commercial fishing

Navigation Rules

The following are guidelines and are not incorporated in Missouri State Statutes.
Two terms help explain these navigation rules.

- **Stand-on vessel:** The vessel that should maintain its course and speed
- **Give-way vessel:** The vessel that must take early and substantial action to avoid collision by stopping, slowing down, or changing course

Power vs. Power



Meeting Head-On

Power vs. Power: Neither vessel is the stand-on vessel. Both vessels should keep to the starboard (right).

Power vs. Sail: The powerboat is the give-way vessel. The sailboat is the stand-on vessel.

Crossing Situations

Power vs. Power: The vessel on the operator's port (left) side is the give-way vessel. The vessel on the operator's starboard (right) side is the stand-on vessel.

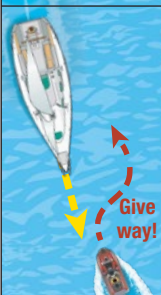
Power vs. Sail: The powerboat is the give-way vessel. The sailboat is the stand-on vessel.

Overtaking

Power vs. Power: The vessel that is overtaking another vessel is the give-way vessel. The vessel being overtaken is the stand-on vessel.

Power vs. Sail: The vessel that is overtaking another vessel is the give-way vessel. The vessel being overtaken is the stand-on vessel.

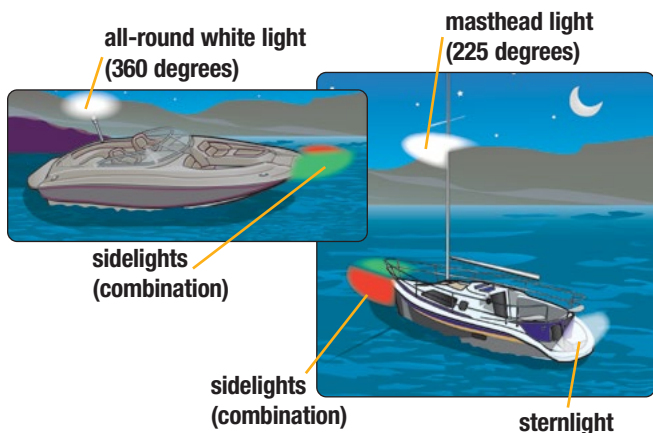
Power vs. Sail



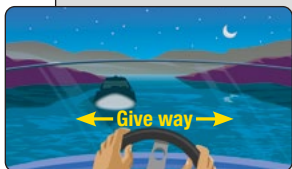
Nighttime Navigation

Be on the lookout for the lights of other vessels when boating at night. Several types of lights serve as navigational aids at night. There are four common navigation lights.

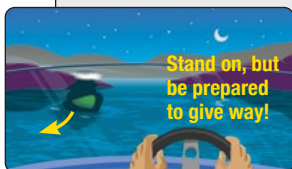
- **Sidelights:** These red and green lights are called sidelights (also called combination lights) because they are visible to another vessel approaching from the side or head-on. The red light indicates a vessel's port (left) side; the green indicates a vessel's starboard (right) side.
- **Sternlight:** This white light is seen from behind or nearly behind the vessel.
- **Masthead Light:** This white light shines forward and to both sides and is required on all power-driven vessels. A masthead light must be displayed by all vessels when under engine power. The absence of this light indicates a sailboat under sail.
- **All-Round White Light:** On power-driven vessels less than 39.4 feet in length, this light may be used to combine a masthead light and sternlight into a single white light that can be seen by other vessels from any direction. This light serves as an anchor light when sidelights are extinguished.



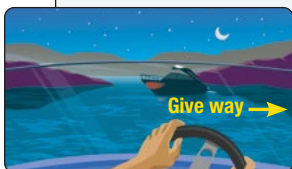
Encountering Vessels at Night



When you see only a white light, you are overtaking another vessel. It is the stand-on vessel, whether it is underway or anchored. You may go around it on either side.



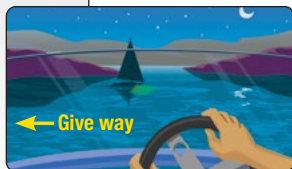
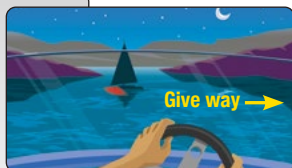
When you see a green and a white light, you are the stand-on vessel. However, remain alert in case the other vessel operator does not see you or does not know the navigation rules.



When you see a red and a white light, you must give way to the other vessel. Slow down and allow the vessel to pass, or you may turn to the right and pass behind the other vessel.

Encountering a Sailboat at Night

When you see **only a red light** or **only a green light**, you may be approaching a sailboat under sail, and you must give way. The sailboat under sail is always the stand-on vessel.



U.S. Aids to Navigation System (ATON)

Buoys and markers are the “traffic signals” that guide vessel operators safely along some waterways. They also identify dangerous or controlled areas and give directions and information. As a recreational boat or PWC operator, you will need to know the lateral navigation markers and non-lateral markers of the U.S. Aids to Navigation System (ATON).

Lateral Markers

These navigation aids mark the edges of safe water areas; for example, directing travel within a channel. The markers use a combination of colors and numbers, which may appear on either buoys or permanently placed markers.



Red Right Returning

is a reminder of the correct course when returning from open waters or heading upstream.

Non-Lateral Markers

Non-lateral markers are navigational aids that give information other than the edges of safe water areas. The most common are regulatory markers, which are white and use orange markings and black lettering. These markers are found on the lakes and rivers of Missouri.



Information

Squares indicate where to find food, supplies, repairs, etc., and give directions and other information.



Controlled

Circles indicate a controlled area, such as speed limit, no fishing or anchoring, ski only or no skiing, or “slow, no wake.”



Exclusion

Crossed diamonds indicate areas off-limits to all vessels, such as swimming areas, dams, and spillways.



Danger

Diamonds warn of dangers, such as rocks, shoals, construction, dams, or stumps. Always proceed with caution.

Weather Emergencies

Weather can change very rapidly and create unexpected situations for boat operators. You should always monitor weather developments. One way is to tune into the frequencies listed below on a VHF radio.

What to Do if Caught in Severe Weather

■ Prepare the boat to handle severe weather.

- Slow down, but keep enough power to make headway.
- Close all hatches, windows, and doors.
- Turn on your boat's navigation lights. If there is fog, sound your fog horn.
- Keep bilges free of water. Remove any water by bailing.
- If there is lightning, disconnect all electrical equipment.

■ Prepare your passengers for severe weather.

- Have everyone put on a USCG–approved PFD. If passengers are already wearing their PFDs, make sure they are secured properly.
- Have your passengers sit on the vessel floor close to the centerline for their safety and to make the boat more stable.

■ Decide whether to go to shore or ride out the storm.

- If possible, head for the nearest shore that is safe to approach. If already caught in a storm, it may be best to ride it out in open water rather than try to approach the shore in heavy wind and waves.
- Head the bow into the waves at a 45-degree angle. PWC should head directly into the waves.
- If the engine stops, drop a “sea anchor” on a line off the bow to keep the bow headed into the wind and reduce drifting while you ride out the storm.

VHF Frequencies Broadcasting NOAA Weather Reports

| | |
|-------------|--|
| 162.400 MHz | Columbia, St. Joseph, Sikeston, Springfield |
| 162.450 MHz | Hermitage, Humansville, Pomme de Terre, Warsaw |
| 162.475 MHz | Hannibal, Holliday |
| 162.550 MHz | Camdenton, Kansas City, Osage Beach, St. Louis |

VHF Radio Channels

The most commonly used VHF channels on US waters are:

Channel 6 Intership safety communications.

Channel 9 Communications between vessels (commercial and recreational) and ship to coast.

Channel 13 Navigational use by commercial, military, and recreational vessels at bridges, locks, and harbors.

Channel 16 Distress and safety calls to USCG and others, and to initiate calls to other vessels.

Channel 22 Communications between the USCG and the public. Severe weather warnings, hazards to navigation, and other safety warnings are broadcast on this channel.

Channels 24–28 Public telephone calls (to marine operator).

Channels 68, 69, and 71 Recreational vessel radio channels and ship to coast.

Other Boating Emergencies

A safe boater knows how to prevent and respond to other boating emergencies.

Falling Overboard

■ To prevent persons from falling overboard:

- Don't sit on the gunwale, bow, seat backs, motor cover, or any other area not designed for seating.
- Don't sit on pedestal seats when underway.
- Don't stand up in or lean out from the boat.
- Don't move about the boat when underway.

■ If someone on your boat falls overboard:

- Reduce speed, and toss the victim a throwable device.
- Turn your boat around, and slowly pull alongside the victim, approaching the victim from downwind or into the current, whichever is stronger.
- Turn off the engine. Pull the victim on board over the stern, keeping the weight in the boat balanced.

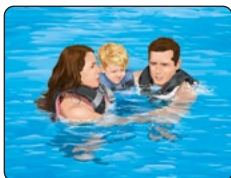
Capsizing or Swamping

- **To reduce the risk of capsizing or swamping:**
 - Don't overload your boat. Balance the load.
 - Slow your boat appropriately when turning.
 - Secure the anchor line to the bow, never to the stern.
 - Don't boat in rough water or in bad weather.
- **If you capsize or swamp your boat, or if you have fallen overboard and can't get back in:**
 - Stay with the boat.
 - Try to reboard or climb onto it in order to get as much of your body out of the cold water as possible.
- **If the boat sinks or floats away, don't panic.**
 - If wearing a life jacket (PFD), remain calm and await help.
 - If you aren't wearing a PFD, look around for one or for other buoyant items to use as a flotation device.
 - In cold water, float rather than tread.

Hypothermia

- **If you are boating in cold water:**
 - Always dress according to the water temperature as well as the air temperature, and be prepared for being immersed in cold water. Dress to protect areas of high heat loss (head, neck, sides, and groin). Wear several layers of clothing under your PFD, or wear a wetsuit or drysuit.
 - Learn to recognize the symptoms of hypothermia. Symptoms begin with shivering and bluish lips and nails, and progress to a coma and, ultimately, death.
- **To reduce the effects of hypothermia:**
 - Put on a PFD if not wearing one. It helps you to float without excessive movement and insulates your body.
 - Remember the importance of reboarding your vessel—get as much of your body out of the water as possible.
 - Don't take your clothes off unless necessary—clothes can help you float and provide insulation.

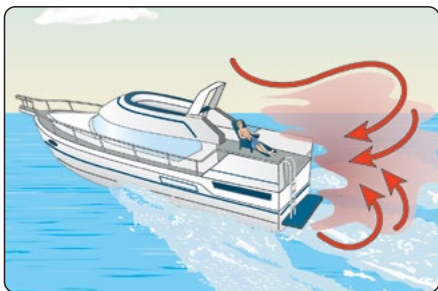
- Don't thrash or move about. Excess motion consumes energy and increases loss of body heat.
- Draw your knees to your chest and your arms to your sides, protecting the major areas of heat loss.
- If others are in the water with you, huddle together with your arms around their shoulders. These huddles are good for the morale of those in the water. Also, rescuers can spot a group easier than individuals.



Carbon Monoxide Poisoning

Carbon monoxide is an invisible, odorless, tasteless gas that can be deadly. To prevent carbon monoxide poisoning, keep air flowing through the boat, and take extreme caution when running a generator at a dock or at anchor.

- Whenever people are using a swim platform or are in the water close to the stern, turn off all gasoline-powered generators with transom exhaust ports.
- Swimmers should never play under the swim platform at the back of the boat.
- When boating, be careful running downwind as exhaust gases may blow back on board. On cabin cruisers, be aware that exhaust gases can blow back into the stern when traveling into the wind.



Specifically for PWC

Although a PWC is considered an inboard motorboat and comes under the same rules and requirements of any other motorboat, there are specific considerations for the PWC operator.

Steering and Stopping a PWC

steering control



steering nozzle

- PWC are propelled by drawing water into a pump and then forcing it out under pressure through a steering nozzle at the back of the unit. This “jet” of pressurized water is directed by the steering control—when the steering control is turned, the steering nozzle turns in the same direction. For example, if the steering control is turned right, the nozzle turns right, and the jet of water pushes the back of the vessel to the left, which causes the PWC to turn right.

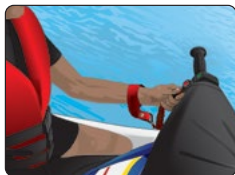
Remember—no power means no steering control...

Most PWC and other jet-drive vessels must have power in order to maintain control. If you allow the engine on a PWC or other jet-propelled vessel to return to idle or shut off during operation, you may lose all steering control. Many PWC will continue in the direction they were headed before the engine was shut off, no matter which way the steering control is turned. New PWC allow for off-throttle steering.

- **A PWC has no brakes.** Always allow plenty of room for stopping. Just because you release the throttle or shut off the engine does not mean you will stop immediately.

Engine Cut-Off Switch (ECOS)

- Most PWC and powerboats come equipped by the manufacturer with an important device called an engine cut-off switch (ECOS). If properly worn, this is a safety device that is designed to shut off the engine if the



operator is thrown from the proper operating position. The USCG requires that operators of vessels equipped with an ECOS use the device at all times.

- A lanyard is attached to the ECOS and the operator's wrist or PFD. This switch shuts off the engine if the operator falls off the PWC or out of the powerboat. If your vessel does not come equipped with an ECOS, you should have one installed.
- It is illegal to ride your PWC without attaching the lanyard properly between the switch and yourself.

If your PWC does not have an ECOS...

PWC without ECOS should be designed to encircle the operator if he or she falls off. The engine will run at idle speed while the PWC slowly circles so that the operator can board as it circles. Be sure that the idle speed is always set correctly.

Remember...

Beginning April 2021, a new federal rule requires operators of recreational vessels less than 26 feet in length to use the ECOS if the vessel is equipped with such a device. Operators must use the ECOS whenever the vessel is operating on plane or above displacement speed. Be sure to check with the state boating agency where you are boating to determine how this new USCG rule applies locally. For more information on this requirement, visit www.uscgboating.org/recreational-boaters/engine-cut-off-switch-faq.php.

Reboarding a Capsized PWC

After a fall, the PWC could be overturned completely. You should be familiar with the proper procedure to right the PWC and to reboard from the rear of the craft.

- Most manufacturers have placed a decal at the rear or bottom of the craft that indicates the direction to roll your PWC to return it to an upright position. If no decal exists, check your owner's manual, or ask the dealer. If you roll it over the wrong way, you could damage your PWC.



- Practice reboarding with someone else around to make sure you can handle it alone. Don't ride your PWC if you are very tired because reboarding will be difficult. Also, avoid riding where there are strong currents or winds, which could hamper your reboarding efforts.

Courtesy When Encountering Other Vessels

- Jumping the wake of a passing boat, or riding too close to another PWC or boat, creates risks and is restricted or even prohibited. The vessel making the wake may block the PWC operator's view of oncoming traffic and also conceal the PWC operator from approaching vessels.
- Excessive noise from PWC often makes them unwelcome with other vessel operators and people on shore. Be a courteous PWC operator.
 - Vary your operating area, and do not keep repeating the same maneuver.
 - Avoid congregating with other PWC operators near shore, which increases annoying noise levels.
 - Avoid making excessive noise near residential and camping areas, particularly early in the morning.
 - Avoid maneuvers that cause the engine exhaust to lift out of the water because that increases noise levels.
 - Do not modify your engine exhaust system if it increases the noise. Improperly modified exhausts will not make your PWC faster and may raise the noise to an illegal level.

Environmental Considerations

When operating your PWC, consider the effect you may have on the environment.

- Avoid causing erosion by operating at slow speed and by not creating a wake when operating near shore or in narrow streams or rivers.

- Make sure that the water you operate in is at least 30 inches deep. Riding in shallow water can cause bottom sediments or aquatic vegetation to be sucked into the pump, damaging your PWC and the environment.
- Do not dock or beach your PWC in reeds and grasses. This could damage fragile environments.
- Take extra care when fueling your PWC in or near the water. Oil and gasoline spills are very detrimental to the aquatic environment. Fuel on land if possible.
- Never use your PWC to chase wildlife, such as birds feeding near shore, waterfowl, or other animals.



Other PWC Considerations

- Remember that everyone on board a PWC must wear a PFD.
- Keep hands, feet, loose clothing, and hair away from the pump intake area. Before cleaning debris away from the pump intake, be sure to shut off the engine.
- Keep everyone clear of the steering nozzle unless the PWC is shut off. The water jet can cause severe injuries.
- Frequently inspect your PWC's electrical systems (e.g., starter and engine gauge connections) to ensure there is no potential for electrical spark. Gas fumes could collect in the engine compartment, and an explosion could occur. After fueling, sniff the engine compartment for any evidence of gas fumes.
- Never exceed the manufacturer's recommended capacity for your PWC.
- Know your limits, and ride according to your abilities.

See the section "Specifically for PWC" for specific Missouri laws for PWC.

Before Going Out

All vessel operators are required to obey laws that regulate vessel registration, operation, and boater education.

Registering and Titling Your Vessel

- You must have a Missouri Certificate of Number and validation decals to operate your vessel legally on the public waters of Missouri. **The only exceptions are:**
 - Non-motorized vessels
 - Sailboats 12 feet or less in length
 - Vessels registered in other states using Missouri waters for 60 consecutive days or less
- The Certificate of Number and validation decals are obtained by submitting the proper application and fee to:

Missouri Department of Revenue
Boat Titling and Registration
P.O. Box 100
Jefferson City, MO 65105
- *This Certificate of Number (Pocket Card) **must be on board and available for inspection by an enforcement officer whenever the vessel is operated.***
- The registration number and validation decals must be displayed as follows:
 - Number must be painted, applied as a decal, or otherwise affixed to both sides of the bow above the waterline.
 - Number must read from left to right on both sides of the bow.
 - Number must be in at least 3 "-high **BLOCK** letters.
 - Number's color must sharply contrast with its background.

| MISSOURI BOAT/VESSEL REGISTRATION CERTIFICATE | | | | | | |
|---|--------------------|----------------------------|---------------|-------|--------------------|--|
| THIS IS NOT A TITLE | | | | | | |
| THIS CERTIFICATE MUST BE CARRIED ON THE BOAT/VESSEL WHEN IN OPERATION | | | | | | |
| YEAR | NAME | HULL IDENTIFICATION NUMBER | | | MODEL NUMBER | |
| MATERIAL | COLOR | LENGTH ft. in. | TYPE | PROP. | HP | |
| TYPE OF USE | BOAT/VESSEL NUMBER | | SERIAL NUMBER | | DATE OF EXPIRATION | |
| OWNER: | | | | | | |
|  | | | | | | |

Spaces should appear here.



Validation
Decal



- Letters and numbers must be separated by at least a 2" space. For example: **MO** ◀2" ▶ **3717** ◀2" ▶ **ZW**.
- No other numbers may be displayed on either side of the bow.
- Decals must be affixed on both sides of the vessel, directly underneath the main body of the registration number or, if there is insufficient room underneath, as close as possible to the registration number.
- If your vessel requires registration, it is illegal to operate it or allow others to operate your vessel unless it is registered and numbered as described above.

Other Facts About Titling and Registration

- In addition to registration, all motorized vessels and all sailboats over 12 feet in length must be titled.
- A Certificate of Number is valid for three years and will **expire on June 30** of the third year. Owners of vessels that have already been registered may be sent a renewal notice to their residence without action by the owner.
- If you change your address, you must notify the Missouri Department of Revenue (MDOR) within 15 days of the change.
- If a numbered vessel is lost, stolen, or abandoned, the owner should report it to local authorities and to the MDOR within 15 days of such event.
- If you lose or destroy your Certificate of Number or decal, you must apply to the MDOR for a duplicate, and submit a processing fee.

- When registering your vessel, you must submit a paid personal property tax receipt or a statement of non-assessment from the previous year.
- If the vessel is not listed on the tax receipt, the applicant must submit one of the following:
 - Corrected tax receipt that lists the vessel (if manually corrected, it must contain the county seal) *or...*
 - A letter signed by an authorized representative from the county tax collector's office that contains the county seal and indicates that taxes have been paid on the specific vessel.

Schedule of Fees to Register and Title Your Vessel

If the transaction is a...

Then your fee is...

| | |
|--------------------------------------|----------|
| New title for a vessel | \$7.50 |
| New title for an outboard motor..... | \$5.00 |
| Registration Class A..... | \$25.00 |
| of a vessel Class 1 | \$55.00 |
| Class 2 | \$100.00 |
| Class 3 | \$150.00 |
| Registration of a motor..... | \$2.00 |
| Transfer of title for a vessel..... | \$7.50 |
| Transfer of title for a motor..... | \$5.00 |
| Duplicate title for a vessel | \$8.50 |
| Duplicate title for a motor | \$5.00 |
| Title processing fee..... | \$2.50 |
| Registration processing fee..... | \$3.50 |

Registering and Titling Outboard Motors

Outboard motors, regardless of horsepower (excluding electric trolling motors), are required to have a Certificate of Title and to be registered with the State of Missouri.

- Application for a title and for registration must be made within 60 days of purchase or of entry into the state.
- The registration and title of a motor is permanent as long as ownership is not changed.
- Owners of registered motors are issued a motor registration decal, which should be displayed on the left side of the outboard motor.

Where to Title and Register Your Vessel

Your Certificate of Number (registration card), validation decals, and title can be obtained by submitting the proper application and fee to:

Missouri Department of Revenue
Boat Titling and Registration
P.O. Box 100
Jefferson City, MO 65105

For more information or forms, call the MDOR at
573-751-4509.

Registering Documented Vessels

Missouri law requires the owner of any vessel documented by the U.S. Coast Guard (USCG) to apply for a documented vessel certificate of registration; pay a registration fee based on the length of the vessel; and, if it is a recreational vessel, pay an “in-lieu” watercraft tax.

- To comply with this law, you must submit all of the following to the MDOR:
 1. An Application for Documented Boat Certificate of Registration (DOR4398), properly completed and signed
 2. A \$7.50 certification fee
 3. A copy of the Certificate of Documentation issued by the USCG as proof of ownership
 4. Appropriate registration fee based on the length of the vessel

| Length of Vessel | Registration Fees |
|------------------------------------|-------------------|
| Under 16 feet in length..... | \$25.00 |
| 16 feet but less than 26 feet..... | \$55.00 |
| 26 feet but less than 40 feet..... | \$100.00 |
| 40 feet and over | \$150.00 |
| Processing fee | \$3.50 |

- Upon receipt of these documents, the following will be issued:
 - A Documented Boat Certificate of Registration ***and...***
 - A set of validation decals.
- Federal law prohibits the State of Missouri from issuing a certificate of title to a documented vessel.
- One decal must be displayed in a clearly visible location on each side of the forward half of the vessel. The registration tab must be affixed to the lower left corner of the Documented Boat Certificate of Registration.
- The Documented Boat Certificate of Registration and registration decals must be renewed every three years.
- In order to avoid payment of a delinquency fee (\$10.00 for each 30 days not to exceed \$30.00), a Missouri resident must make application for a Documented Boat Certificate of Registration within thirty (30) days after acquiring or bringing the vessel into this state. A non-resident must make application within sixty (60) days of acquiring a vessel in this state or if the vessel will be kept in this state for more than sixty (60) consecutive days.
- *The Documented Boat Certificate of Registration must be carried on board the vessel and be available for inspection when the vessel is being operated.*

- The Department of Revenue may issue a temporary certificate of registration for the operation of a documented vessel. This temporary registration will be valid for sixty (60) days from the date of issue. The temporary permit may be purchased from the Department of Revenue or an authorized boat dealer for a fee of \$5.00. Temporary registration permits are non-transferable or renewable.
Note: Documented vessel may not be operated legally in Missouri until either a temporary or permanent registration has been obtained.
- Federal documentation questions should be directed to the USCG National Vessel Documentation Center at **1-800-799-8362**.

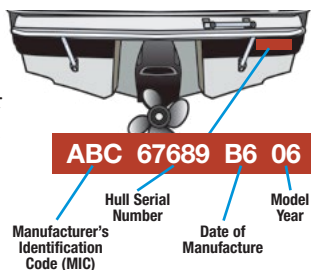
In-Lieu Watercraft Tax for Documented Vessels

The in-lieu tax is based on the purchase price of the vessel as outlined below:

| Purchase Price of Watercraft | Tax Due |
|------------------------------|--|
| Less than \$15,000 | \$500 |
| \$15,001 to \$30,000 | \$650 |
| \$30,001 to \$50,000 | \$1,000 |
| \$50,001 to \$100,000 | \$1,400 |
| \$100,001 to \$150,000 | \$2,000 |
| \$150,001 to \$200,000 | \$3,000 |
| \$200,001 to \$250,000 | \$4,000 |
| \$250,001 to \$300,000 | \$5,000 |
| \$300,001 to \$350,000 | \$5,500 |
| \$350,001 to \$400,000 | \$6,000 |
| \$400,001 to \$450,000 | \$6,500 |
| \$450,001 to \$500,000 | \$7,500 |
| \$500,001 to \$550,000 | \$8,500 |
| \$550,001 to \$650,000 | \$9,500 |
| \$650,001 to \$750,000 | \$10,500 |
| \$750,001 and above | Add an additional \$1,500 for each \$100,000 increment. |

Hull Identification Number (HIN)

The Hull Identification Number (HIN) is a unique, 12-digit number assigned by the manufacturer to vessels built after 1972. These numbers distinguish one vessel from another and are engraved in the fiberglass or on a metal plate attached to the transom. If the HIN is missing or non-existent, such as with a home-built vessel, apply to the MDOR for an identification number.



Buying or Selling a Vessel

- The steps for transferring ownership of a vessel are essentially the same whether you are purchasing a new or used boat from a dealer or a used boat from an individual.
- If a vessel or outboard motor is sold or otherwise transferred to another person:
 - The buyer of a used vessel or outboard motor must apply for the registration and title to be transferred to his or her name within 30 days from the date of purchase.
 - The buyer of a new vessel or outboard motor must apply for new registration and titling within 30 days.
 - The Department of Revenue or an authorized dealer may issue a temporary operating permit, valid for 30 days, to permit lawful operation of the vessel or outboard motor until titling and registration are complete.

Note: A vessel and/or outboard motor must have proper registration in the current owner's name or a non-expired temporary registration permit on board before it can be used on the water.

Marine Events

- A permit to hold a race, regatta, tournament, parade, or exhibition on Missouri's navigable waters must be obtained from the Missouri State Highway Patrol (MSHP) by submitting an application at least 15 days prior to the event. If the event will limit or obstruct the use of a public waterway, the application must be submitted 60 days in advance. Applications can be obtained online at **apps.mshp.dps.mo.gov/MSHPWeb/WaterPatrol/regattaPermitInformation.html**.
- Permits for events to be held on federally controlled waters must be obtained from the USCG by applying at least 30 days prior to the event.

Who May Operate a Motorboat or PWC

- All persons must be at least 14 years of age to operate a motorboat or personal watercraft (PWC) legally unless under the direct, on-board supervision of a parent, guardian, or other person 16 years of age or older.
 - No person may knowingly permit a child under the minimum age to operate a motorboat or PWC unattended.
 - Parents and guardians are legally responsible for the underage operator and their actions.

Boater Education Law

- All persons born after January 1, 1984, who operate any vessel on the lakes of the State of Missouri must have on board:
 - A boating safety identification card issued by the MSHP
 - or...*
 - A Missouri driver's license, or a non-driver's license with a boating safety endorsement.
- The boating safety card is obtained by successfully completing a boating safety course approved by the MSHP.
 - Missouri residents must have and present to a licensing office a boating safety identification card when adding the boating endorsement to the driver's license or non-driver's license.
 - The boating safety identification card requirement also applies to non-residents.
- Persons who possess a USCG or Power Squadron boating course certificate may apply for a certification card issued by the MSHP.

Required Equipment

When preparing to go out on a vessel, the operator must check that the legally required equipment is on board.

Personal Flotation Devices (PFDs)

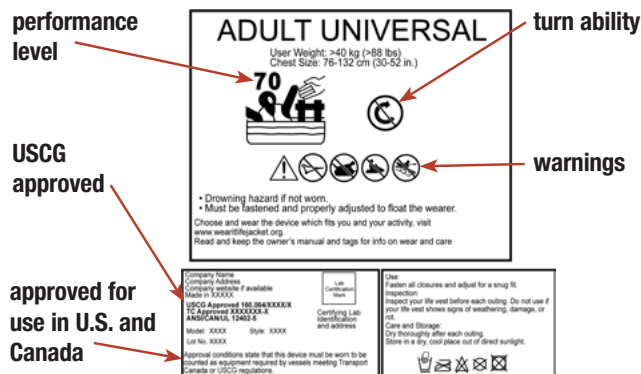
- All vessels 16 feet in length or longer must carry one USCG–approved wearable personal flotation device (PFD), sometimes called life jacket, for each person on board or being towed. Vessels less than 16 feet in length must carry one wearable or one USCG–approved throwable device for each person aboard or being towed. **Under federal law, however, a wearable PFD is required for each person on board regardless of vessel length.**
- In addition to the requirements above, vessels 16 feet in length or longer must have one USCG–approved throwable device on board and *readily accessible*.
- Children under 7 years of age must *wear* a USCG–approved PFD at all times while on board any vessel, unless the child is confined in a totally enclosed area of the vessel, such as the cabin area of a houseboat or day cruiser.
- If a person chooses to wear a PFD that is not USCG approved (when not specifically required), a properly fitting USCG–approved PFD must be carried on board the vessel to meet the state and federal carriage requirements.
- Each person riding on a PWC must *wear* a USCG–approved PFD.
- Besides being USCG approved, all PFDs must be:
 - *In good and serviceable condition.*
 - *Readily accessible*, which means you are able to put the PFD on quickly in an emergency. PFDs may not be stowed in closed or locked compartments.
 - *Of the proper size for the intended wearer.* Sizing for PFDs is based on body weight and chest size.

PFD Label

Every USCG–approved PFD has a label that contains important information. While boating, you may encounter old- or new-style PFD labels.

Not all PFDs available are USCG approved. Regardless if the PFD label is in the old or new style, there must be a USCG approval number, and the PFD must be used in accordance with the labeling information to meet the legal requirements.

- The older legacy labels have a type number (Types I to V).
 - The type number indicates the conditions and the intended use for which the PFD is designed.
 - PFDs with these labels may still be used in the country where they are approved as long as they are in serviceable condition.
- The new labels have a performance level icon that contains a number, typically ranging from 50 to 150.
 - A lower number means the PFD is intended for near-shore activities in calm waters. PFDs designed for near-shore use offer greater mobility and comfort. However, they will not turn most unconscious persons face up.
 - A higher number means the PFD is intended for offshore activities. PFDs designed for offshore use offer greater flotation, turning ability, and stability.
 - PFDs with these labels are approved for use in both the U.S. and Canada.



Warnings

Some PFDs are **not** approved for certain activities:



Water-skiing



PWC or wakeboarding



Tubing



Whitewater paddling

Turn Ability



The PFD will turn an unconscious person face up. Test before use.



The PFD will not turn an unconscious person face up.

Navigation Lights

The required navigation lights differ depending on the type and size of your vessel. You must display the required navigation lights between sunset and sunrise, and you should display navigation lights during periods of restricted visibility.

Motorboats When Underway

These vessels must exhibit the lights as shown in illustration 1. Remember, motorboats include sailboats operating under power. The required lights are:

- Red and green sidelights visible from a distance of at least one mile away on a dark, clear night.
- An all-round white light or both a masthead light and a sternlight. These lights must be visible from a distance of at least two miles away on a dark, clear night. The all-round white light (or the masthead light and sternlight) must be visible from all directions in a 360-degree circle.

Unpowered Vessels When Underway

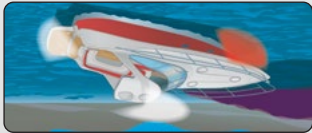
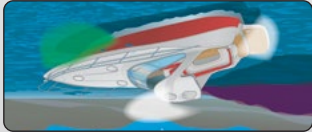
Unpowered vessels are sailboats or vessels that are paddled, poled, or rowed.

- **If less than 65.6 feet** long, these vessels must exhibit the lights as shown in illustration 2. The required lights are:
 - Red and green sidelights visible from at least two miles away (or if less than 40 feet long, at least one mile).
 - A sternlight visible from at least two miles away.
- **If less than 23.0 feet** long, these vessels should:
 - If practical, exhibit the same lights as required for unpowered vessels less than 65.6 feet in length.
 - If not practical, have on hand at least one lantern or flashlight shining a white light as shown in illustration 3.

All Vessels When Not Underway

All vessels are required to use a white light visible from all directions whenever they are anchored or moored away from dock between sunset and sunrise.

1. Motorboats



2. Unpowered Vessels Less Than 65.6 Feet

An alternative to the sidelights and sternlight is a combination red, green, and white light, which must be exhibited near the top of the mast.



3. Unpowered Vessels Less Than 23.0 Feet

Vessel operators should never leave shore without a flashlight. Even if you plan to return before dark, unforeseen developments might delay your return past nightfall.



Fire Extinguishers

Effective April 20, 2022, any non-rechargeable (disposable) fire extinguisher that is older than 12 years should be removed from service. Refer to the date of manufacturing stamped on the bottle; for example, “05” means “2005.”

- Federal law requires all vessels, including PWC, to have a Type B fire extinguisher on board if one or more of the following conditions exist:
 - Any inboard engine
 - Closed compartments where portable fuel tanks may be stored
 - Double bottoms not sealed to the hull or which are not filled completely with flotation material
 - Closed living spaces
 - Closed storage compartments in which flammable or combustible materials may be stored
 - Permanently installed fuel tanks (any tank where the removal of the tank is hampered by the installation of tie-down straps or clamps)
- Additionally, all vessels are required to have a Type B, USCG–approved fire extinguisher on board if flammable or toxic fluids are on board.
- Approved types of fire extinguishers are identified by the following marking on the label—“Marine Type USCG Approved”—followed by the type and size symbols and the approval number.
- When required by the USCG, fire extinguishers must be on board the vessel and readily accessible—where they can be easily reached. When deciding on a place to store a fire extinguisher, make sure to consider how easy it is to reach in the event of a fire. It is recommended that the fire extinguisher be conspicuously and securely mounted on its intended hanger or bracket.

The following information is **effective April 20, 2022**.

- Vessels that have a **model year** of 2018 and newer may carry only 5-B or 20-B rated fire extinguishers with date stamp.
- Vessels with a model year between 1953 and 2017 may carry either:
 - Unexpired 5-B or 20-B rated fire extinguishers *or...*
 - B-I or B-II rated fire extinguishers that are in good and serviceable condition.

Model Year means the period beginning June 1 of a year and ending on July 31 of the following year and being designated by the year in which it ends.

Use this chart to determine the size and quantity required for your vessel.

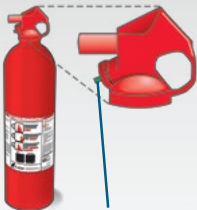
| Length of Vessel | Without Fixed System | With Fixed System* |
|---|-------------------------------------|-----------------------|
| Less than 26 ft. | one 5-B | none |
| 26 ft. to less than 40 ft. | two 5-B (or one 20-B) | one 5-B |
| 40 ft. to less than 65 ft. | three 5-B (or one 20-B and one 5-B) | two 5-B (or one 20-B) |
| *refers to a permanently installed fire extinguisher system | | |

Note: One 20-B portable fire extinguisher may be substituted for two 5-B portable fire extinguishers. For vessels with a model year between 1953 and 2017, one 20-B/B-II portable fire extinguisher may be substituted for two 5-B/B-I portable fire extinguishers.

- Extinguishers must not be expired or appear to have been previously used. They must be maintained in good and serviceable condition. Good and serviceable condition means that the fire extinguisher on board:
 - Is charged and indicates it is charged if the extinguisher has a pressure gauge reading or indicator **and...**
 - Has a pin lock that is firmly in place **and...**
 - Does not show visible signs of significant corrosion or damage **and...**
 - Has a discharge nozzle that is clean and free of obstructions.

Fire Extinguisher Charge Indicators

Check the charge level of your fire extinguishers regularly. Replace them immediately if they are not fully charged.



green button

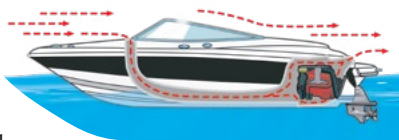
To check this style of extinguisher, depress the green button. If it is fully charged, the green button should pop back out immediately.



On this style of fire extinguisher, the needle indicator should be in the "full" range.

Ventilation System

The purpose of ventilation systems is to avoid explosions by removing flammable gases. Properly installed ventilation systems greatly reduce the chance of a life-threatening explosion.



- All gasoline-powered vessels constructed in a way that would entrain fumes must have at least two ventilation ducts fitted with cowls to remove the fumes.
- If your vessel is equipped with a power ventilation system, turn it on for at least four minutes both after fueling and before starting your engine.
- If your vessel is not equipped with a power ventilation system (for example, a PWC), open the engine compartment and sniff for gasoline fumes before starting the engine.

Mufflers

A motorboat's engine must have a factory-installed muffler or exhaust water manifold for noise reduction or another effective muffling system.

- Motorboats built on January 1, 1996, or later must not exceed a noise level of 90 dBA when stationary at idle and measured from a distance of 3 feet.
- All motorboats must not exceed a noise level of 86 dBA when measured from a distance of 50 feet.
- You may not remove or modify a muffler or muffling system if the result is increased noise level.
- If the exhaust system uses water for muffling, it must comply with the noise level restrictions.

Sound-Producing Devices

- The following requirements apply to vessels operating on Missouri state waters.
 - Vessels that are 16 feet but less than 40 feet in length are required to carry on board a whistle or horn to make an efficient sound to signal intentions or positions.
 - Vessels that are 40 feet or more in length are required to carry on board a whistle or horn *and* a bell.
- The following requirements apply under federal laws on federally controlled waters.
 - Vessels less than 39.4 feet (12 meters) in length, which includes PWC, must have some way of making an efficient sound signal. Examples are a handheld air horn, an athletic whistle, an installed horn, etc. A human voice is not acceptable.
 - Vessels that are 39.4 feet (12 meters) or more in length must have a sound-producing device that can produce an efficient sound signal. The sound signal should be audible for one-half mile and should last for 4 to 6 seconds.

Sound Signals

Some common sound signals that you should be familiar with as a recreational boater are as follows.

Restricted Visibility

- One prolonged blast at intervals of not more than two minutes is the signal used by power-driven vessels when underway.
- One prolonged blast plus two short blasts at intervals of not more than two minutes is the signal used by sailboats under sail.

Warning

- One prolonged blast is a warning signal (for example, used when coming around a blind bend or exiting a slip).
- Five (or more) short, rapid blasts signal danger or signal that you do not understand or that you disagree with the other boater's intentions.

Other Equipment and Regulations

Diver-Down Flags

State law requires that scuba divers or snorkelers display the diver-down flag to mark the diving area. Divers must stay within a **50-yard** radius of the flag. Vessel operators must not operate within **50 yards** of a displayed diver-down flag. Two types of flags indicate diving activity.



**Diver-Down
Flag**



Alfa Flag

A rectangular red flag, at least 12 inches x 16 inches, with a two-inch white diagonal stripe is required on Missouri state waters.

A blue-and-white International Code Flag A (or Alfa flag) is required on federally controlled waters.

Skier-Down Flags

A flag indicating a “skier down/person in the water” is required equipment for a motorboat (other than a PWC) towing a person behind on water skis, an inner tube, sled, or similar devices. This flag is to be displayed when the person is in the water before or after being towed on water skis or similar devices or when a swimmer leaves the confines of the vessel. Displaying the flag is required from 11:00 a.m. to sunset and is in effect only on the Mississippi River, Missouri River, and the lakes of this state.

- The color of the flag must be either red or bright orange.
- The flag must be square in design and measure at least 12 inches on each side.
- When displayed, the flag must be visible for 360 degrees.
- All vessel operators in the vicinity of a displayed skier-down flag are required to operate at idle speed if closer than **50 yards** to the vessel displaying the flag. It is suggested, when operating in the vicinity of a displayed skier-down flag, that operators immediately start scanning the water for the downed skier.

- All vessel operators are encouraged to maneuver away from the area in which a skier-down flag is being displayed.
- This flag is to be displayed only when the skier (or person being towed on an inner tube, sled, etc.) is in the water before or after being towed. ***Once the skier is up and being towed, the flag must be lowered.*** The flag must be raised again when the skier falls or stops skiing and enters the water in order to return to the motorboat.
- **PWC and moored or anchored motorboats are exempt from displaying the skier-down flag.**



Skier-Down Flag

A rectangular red or bright orange flag, at least 12 inches x 12 inches

Use of Fireworks

- State law prohibits the igniting or discharge of fireworks by persons on board vessels, except in the case where a display permit has been issued.
- Also, persons may not throw or place any ignited fireworks into a vessel or near any other person. This prohibition does not include the proper use of pyrotechnic visual distress signals.

Docks

Dock owners on Missouri lakes managed by the United States Army Corps of Engineers and on Lake of the Ozarks must post an emergency address on the dock. The address should be posted on the lake side of the dock facing the water using a minimum of three-inch lettering. The address should give a street address or emergency **911** address closest to the dock along with a zip code. The intent of this law is to aid in the location of and reduce the response times for emergency and non-emergency calls on the water.

On the Water

In addition to the laws mentioned previously, here are some other Missouri regulations that apply when vessel operators are on the water.

Negligent, Reckless, and Other Illegal Operations

Missouri law designates these dangerous operating practices as illegal.

Reckless Operation

Reckless operation of a vessel or the reckless manipulation of water skis, a wakeboard, or similar device is the failure to exercise the care necessary to prevent the endangerment of life, limb, or property of any person. Examples of illegal, reckless operation are:

- Boating in restricted areas without regard for other boaters or persons, posted speeds and wake restrictions, diver-down flags, etc.
- Boating while under the influence of alcohol or drugs
- Chasing, harassing, or disturbing wildlife with your vessel

Overloading

It is illegal to load a vessel beyond the recommended capacity shown on the capacity plate installed by the vessel manufacturer.

Riding on the Bow, Deck, or Gunwale

Allowing passengers to ride on the bow, gunwale, transom, seat backs, seats on raised decks, or any other place where there may be a chance of falling overboard is prohibited on Missouri lakes, unless the vessel has adequate guards or a railing. Guards or railings must be at least six inches high (not to exceed 18 inches in height) to be considered adequate.

Improper Speed or Distance

A proper speed or distance must be maintained while operating a motorboat or PWC or while towing a person on water skis or any similar device. Specifically, it is illegal to:

- Operate a motorboat or PWC at speeds that may cause danger, injury, damage, or unnecessary inconvenience. Be aware of and obey all regulatory markers, including those marked as “idle speed” or “no wake.”
- Operate a vessel at a speed in excess of “slow, no wake speed” within 100 feet of any emergency vessel that has red or blue emergency lights displayed.
- Operate a motorboat or PWC at speeds greater than **“idle speed” or “slow, no wake speed”** within 100 feet of:
 - A dock or pier
 - An occupied, anchored vessel
 - A buoyed restricted area

“Idle Speed” or “Slow, No Wake Speed”

When you see these buoys or signs, they indicate a boating restricted area established to protect the safety of the public and property. In these areas, a vessel may not proceed at a speed greater than necessary to maintain steering.

Exceeding Night Speed Limit

It is illegal to operate a motorboat or PWC in excess of 30 miles per hour at any time from a half-hour after sunset until one hour before sunrise when on waters of the state.

Violating Skier-Down Flag Requirement

Violating the skier-down flag requirement is the failure to display the skier-down flag properly or the failure to keep a proper distance from a displayed skier-down flag.

Obstructing or Impeding Navigation

It is illegal to:

- Anchor a vessel in the traveled portion of a river or channel that will prevent or interfere with any other vessel passing through the same area.
- Moor or attach a vessel to a buoy (other than a mooring buoy), beacon, light, or any other navigational aid placed on public waters by proper authorities.
- Move, displace, tamper with, damage, or destroy any navigational aid.
- Obstruct a pier, wharf, boat ramp, or access to any facility.
- Mark or obstruct the water of this state in any manner so as to endanger the operation of watercraft or conflict with the marking system prescribed by the MSHP.
- Operate or otherwise position a vessel, other object, or any person in such a manner so as to obstruct or impede the normal flow of traffic on the lakes of this state.

Enforcement

The boating laws of Missouri are enforced by the officers of the MSHP and any other authorized law enforcement agency. The USCG has enforcement authority on all federally controlled waters and has the authority to stop and board vessels in order to check for compliance with federal laws.



Alcohol and Drugs—Zero Tolerance!

Missouri law prohibits boating while intoxicated (BWI)—that is, operating a vessel while intoxicated due to alcohol or any combination of alcohol, controlled substances, or drugs.

Missouri's blood alcohol concentration (BAC) for BWI has been lowered from 0.10% to 0.08%.

- Missouri law states that it is evidence of intoxication if a person has a concentration of alcohol in his/her blood of 0.08% or more, based upon a chemical analysis of breath, blood, or saliva.
- Missouri law establishes the following penalties.
 - Those convicted of boating while intoxicated are guilty of a Class B misdemeanor upon a first conviction. In addition, those convicted will be required to complete and pass an approved boating safety course.
 - Upon a second conviction, a person is guilty of a Class A misdemeanor.
 - Upon a third or subsequent conviction, a person will be guilty of a Class E felony.
 - A person boating while intoxicated who causes the death or serious injury of another person will, upon conviction, be guilty of a felony.
- By operating a vessel on Missouri waters, you have consented to be tested for alcohol or drugs if so requested by a law enforcement official. If you refuse to be tested, you will be subject to arrest and punishment consistent with the penalties described above.
- Possession or use of drinking devices for the rapid consumption of large amounts of alcohol, commonly referred to as “beer bong,” along with four-gallon containers which hold any alcoholic beverage are prohibited on the state's rivers except the Mississippi, Missouri, and Osage Rivers.



Just remember this simple rule:
Don't Drink and Boat!

Driving While Intoxicated (DWI)

Missouri's laws affecting boating while intoxicated are referred to as BWI. But don't forget, Missouri also has laws affecting driving while intoxicated (DWI). Missouri's BAC for DWI is 0.08%. Although **any level of impairment** may result in charges of DWI, a BAC level of 0.08% or above is *prima facie* evidence of intoxication under Missouri law.

- If you are *arrested* for driving while intoxicated:
 - You will be searched, handcuffed, taken to jail, photographed, fingerprinted, and bonded.
 - You will have to give your license to the arresting officer, and it will be suspended for 30 days.
- If you are *convicted* of DWI, the following will apply.
 - Eight points will be assessed to your license. Your license will be revoked for one year if you have accumulated a total of:
 - 12 points in a 12-month period **or...**
 - 18 points in a 24-month period **or...**
 - 24 points in a 36-month period.
 - Twelve points will be assessed for a second or subsequent conviction of an alcohol-related offense, and the penalties are much stronger (five days in jail or 30 days of community service for a second offense; 10 days in jail or 60 days of community service for a third or subsequent offense).

Effects of Alcohol When Driving

- Reaction time: Impairment can begin with a BAC level as low as 0.04%.
- Tracking: Driver weaves from one side of the road to the other or cannot follow the path of the road.
- Vision: Effects include loss of ability to perceive details in an object in motion and loss of control of eye movement.
- Comprehension: Perceiving hazards and/or processing information are affected.
- Coordination: Motor skills are lessened.
- Performance: Functions such as steering, braking, speed control, etc., are impaired.
- Emergency response: Ability to respond to emergency situations is limited.

Financial Burden of DWI Conviction

The cost associated with a DWI conviction can be overwhelming. The following are agencies and people who must be dealt with and require a fee for the service provided.

- Towing: Your vehicle will have to be towed to a place of impoundment, and you'll have to pay to get it out.
- Bail: You will have to pay a bail bondsman to get out of jail, or your family/friends will have to post bail for you.
- Attorney: If you decide to get an attorney, prepare to pay.
- Fines and court costs: The judge will issue the fine and associated court costs.
- Substance Abuse Traffic Offender Program (SATOP): An assessment will be made of your drinking patterns, and you will be required to successfully complete a level of service; payment is your responsibility.
- Insurance: You'll most likely have to carry high-risk insurance; high risk usually means high dollar!
- License reinstatement: You will have to file an SR22 insurance form with the State Department of Revenue and pay a reinstatement fee if you want to drive again.

Average **minimum** total cost of above services = **\$4,500**

Social Ramifications

If you were lucky, that's all there would be to it. But what about the social ramifications?

- Embarrassment: How will you feel about being handcuffed and hauled away in a patrol car?
- Burden on your family and friends: You're going to have to get somebody to chauffeur you everywhere and explain to your kids why you can't drive.
- Employment: What will you do if you are required to drive as a part of your job? What if you lose your job?
- Remorse: What if you have to go to jail? Worst of all, what if you hurt or kill someone?

So think about it...

Drinking + Driving/Boating = Illegal, Inappropriate,
and Costly

Is it worth the risk?

Accidents and Your Responsibilities

- Vessel operators involved in an accident, collision, or other casualty must immediately inform the MSHP of the accident.
- The operator also must file an accident report with the MSHP if:
 - A person dies or disappears *or...*
 - An injury occurs *or...*
 - Damage to the vessel and other property exceeds \$500.
- It is also the duty of any operator involved in a boating accident to render all necessary aid and assistance, so far as is possible without endangering his or her own passengers or vessel.
- An operator commits the offense of leaving the scene of an accident if he or she knows injury or damage has occurred as a result of the accident but he or she fails to stop and give the other party or a law enforcement officer the following information:
 - His or her name and address
 - The vessel registration number
 - His or her driver's license number

Reporting an Emergency

In case of an emergency, call the MSHP. If you are reporting an accident, make a mental checklist of all information prior to placing the call for help.

- Describe your emergency to the dispatcher.
- As requested, provide the dispatcher with the following information:
 - Your name
 - The location of the accident
 - The kind of help you need (towing, medical help, etc.)
 - The nearest location to send an ambulance
 - The name of the vessel operator and any other persons involved in the accident (if known)
 - A description of the vessel(s) involved with registration number(s)
- If you are calling from a cell phone, give the dispatcher the cell phone number. It may be necessary for the dispatcher to contact you for more information prior to an officer's arrival.
- When you are talking to the dispatcher, try to remain calm so that important information is not overlooked. If certain information is omitted, it could take longer than necessary for an officer to respond to your location. Your patience and cooperation are important for fast, efficient results.

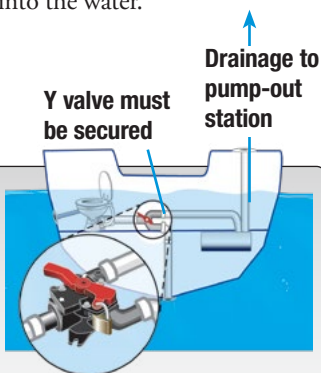
For emergencies, call
1-800-525-5555
or *55 cellular

Discharge of Sewage and Waste

- Houseboats must have a wastewater holding system to prevent the discharge of waste into surrounding waters. Missouri law prohibits the discharge of any sewage, treated or untreated, into the state's freshwaters.
- If you have a recreational vessel with installed toilet facilities, it must have an operable marine sanitation device (MSD) on board. All installed devices must be USCG certified and working properly.
- Type I and II MSDs must have the Y valve secured so that waste cannot be discharged into the water.

Types of MSDs

- A Type III MSD, the simplest and most common, consists of holding tanks or portable toilets. Waste is to be discharged onshore into a pump-out facility.
- Types I and II MSDs are usually found on large vessels. Waste is treated with special chemicals to kill bacteria.



Typical Marine Sanitation Device

Discharge of Trash

It is illegal to dump refuse, garbage, or plastics into federally controlled and state waters.

- You must store trash in a container while on board and place it in a proper receptacle after returning to shore.
- If boating on federally controlled waters, you must display a 4 x 9-inch placard (sign) on any vessel 26 feet or longer. It must notify passengers and crew about discharge restrictions.

Missouri Law Regarding Glass Containers and Trash

The following restrictions apply to any vessel that is easily susceptible to swamping, tipping, or rolling (such as a canoe, kayak, or inner tube) and is carrying foodstuffs or beverages while operating on any of Missouri's navigable waterways. Navigable waterways means any navigable river, lake, or other body of water.

- No one may have or use glass containers within a vessel (prescribed drugs are excepted).
- All persons using a cooler, icebox, or containers other than glass for foodstuffs and beverages must:
 - Ensure that the container is sealed to prevent the contents from spilling into the water.
 - Affix to the vessel a container or bag, capable of being securely closed, to contain their trash.
 - Transport all of their trash to a place where the materials may be disposed of safely and lawfully.
 - Safely secure any glass containers to prevent breaking or falling overboard.

Discharge of Oil and Other Hazardous Substances

- It is illegal to discharge oil or hazardous substances into the water.
- You are not allowed to dump oil into the bilge of the vessel without means for proper disposal.
- You must dispose of oil waste at an approved reception facility. On recreational vessels, a bucket or bailer is adequate for temporary storage.
- If boating on federally controlled waters and your vessel is 26 feet or longer, you must display a 5 x 8-inch placard near the bilge pump control station stating the Federal Water Pollution Control Act's law.

If your vessel discharges oil or hazardous substances into the water, immediately call the National Response Center at **1-800-424-8802**. Also, call the Missouri Department of Natural Resources at **573-634-2436**.



Specifically for PWC

PWC operators must adhere to the legal requirements of all boating laws and those specific to the operation of PWC on Missouri waters.

Requirements Specific to PWC

- Everyone on board a PWC while underway must *wear* a USCG–approved Type I, II, III, or V PFD.
- An operator of a PWC equipped with a lanyard-type engine cut-off switch (ECOS) must attach the lanyard to his or her person, clothing, or PFD.
- You must be at least 14 years of age to operate a PWC, unless a supervising person at least 16 years of age is also on board the PWC.
- If born after January 1, 1984, you must have a boating safety identification card that is NASBLA approved and issued by the MSHP, or other state, to operate a PWC.
- It is illegal to operate a PWC while you are under the influence of alcohol or drugs.
- PWC must be operated in a careful and responsible manner. Specifically, it is illegal for PWC operators to:
 - Weave the PWC through congested waterway traffic.
 - Jump the wake of another motorboat when visibility is obstructed.
 - **Become airborne while crossing the wake of another motorboat and within 100 feet of that motorboat.**



- Operate at greater than “slow, no wake speed” within 50 feet of any other vessel, PWC, or person in the water.
- Operate in a manner that requires swerving at the last possible moment to avoid collision.
- Also, it is strongly recommended that PWC be operated only during daylight hours. If a PWC is operated at night, the PWC must display the required navigation lights.
- PWC are exempt from displaying the skier-down flag.

Sharing Your PWC...Safely

Sharing the fun of your PWC with friends is all part of the boating experience. Before you share your PWC, however, make sure that others you allow to operate it understand their responsibilities as an operator. They need to know that they have the same responsibilities as any other vessel operator, including obeying the navigation rules. In addition:

- Make sure that anyone you allow to operate your PWC meets the minimum age and education requirements for PWC operation in Missouri and the local waterway you are using.
- Show new operators how to start and reboard the PWC while on shore or in shallow water.
- Explain how to steer and control the PWC. Tell all new operators and remind experienced operators that ***power is required for steering control.***
- Make sure that the operator understands how to use the ECOS and attaches the lanyard to his or her person or PFD before starting the engine.
- Have anyone new to PWC go out in an uncongested area first. Tell them to stay clear of other PWC, boats, or persons in the water.
- Explain how to recognize a “slow, no wake speed” marker and what to do when approaching one.

Specifically for Skiing

Motorboat and PWC operators towing a person(s) on water skis or a similar device have additional laws they must follow.

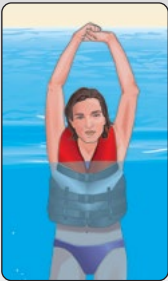
Requirements for Towing Skiers

- Every motorboat or PWC towing a person(s) on water skis, a wakeboard, or any other device other than a parasail must have either:
 - A person on board, in addition to the operator, observing the towed person(s) at all times (preferably the observer is at least 12 years old) *or...*
 - An approved ski mirror that is at least three inches in height and eight inches in width, gives 180 degrees of vision behind the operator, and is designed as a ski mirror. *The MSHP does not recognize the manufacturer's mirrors on PWC as being sufficient for this purpose.*
- Every motorboat or PWC towing a parasailer must have a person at least 12 years old on board, in addition to the operator, actively observing the parasailer.
- Persons may be towed behind a motorboat or PWC on water skis, a surfboard, parasail, or any other device only during daylight hours (sunrise to sunset).
- A reasonable distance from other vessels, people, and property must be maintained so as not to endanger life or property. It is illegal to cause the person being towed to collide with any object or person.
- An operator of a motorboat on waters of the Mississippi River, the Missouri River, or Missouri lakes between the hours of 11:00 a.m. and sunset must display a skier-down flag clearly whenever the towed person(s) is in the water. The flag should be lowered while the motorboat is engaged in towing but should be displayed again when the towed person enters the water.

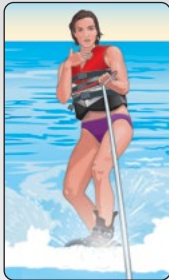
- In addition, it is *strongly* recommended that all persons being towed behind a motorboat or PWC on water skis or any other device wear a USCG–approved PFD. Ski belts are not USCG approved.
- It is against Missouri law to operate water skis, wakeboards, or other such devices while intoxicated.

Hand Signals for Skiers

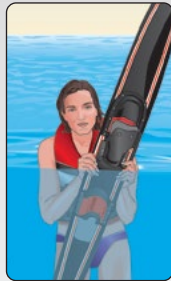
Knowing proper hand signals will help the skier(s) communicate with their boat operator or the observer.



Skier OK



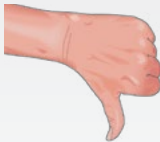
Stop



Skier down—watch!



Speed up



Slow down



Speed OK



Turn left



Turn right

Safety Tips for Other Water Activities

Swimming

- Because it is almost impossible for boat operators to spot a swimmer, especially in waves, swimmers should:
 - Not swim outside of designated or safe areas.
 - Swim only in deep waters where they can be seen by boaters and with a boat alongside.
- Inflatable toys can be easily punctured and lose air. Wind can push a toy out of a user's reach. Users should be sure they don't drift too far from shore. Inflatable toys are not a substitute for supervision—always watch children who use these toys.
- Swimmers should know their ability and never exceed it. Never dive into unknown depths or swim alone.

Scuba Diving and Snorkeling

- As a vessel operator, you should:
 - Be able to recognize a diver-down flag—a red flag with a white diagonal stripe floating in the divers' area.
 - Stay the legal distance away from a diver-down flag.
 - Keep a lookout for bubbles breaking the surface of the water. The bubbles indicate that there are divers below who may have strayed from their marked diving area.
- In order to ensure their own safety, divers should:
 - Always display the diver-down flag.
 - Select a boat that is suited for diving. A small boat with easy exit or entry is best, although it should be large enough to hold diving gear comfortably. Flat-bottomed boats should be considered for this reason.
 - Avoid overloading the boat with people or equipment and supplies.
 - Always anchor the boat securely.

Avoiding Propeller Strike Injuries

Most propeller strike accidents result from operator error.

Victims include swimmers, scuba divers, fallen water-skiers, and boat operators or passengers. Most propeller accidents can be prevented by following basic safe boating practices.

- Maintain a proper lookout. The primary cause of propeller strike accidents is operator inattention.
- Make sure the engine is off so that the propeller is not rotating when passengers are boarding or leaving a boat.
- Never start a boat with the engine in gear.
- Slow down when approaching congested areas and anchorages. In congested areas, always be alert for swimmers and divers.
- Learn to recognize warning buoys that mark swimming and hazardous areas.
- Keep the boat away from marked swimming and diving areas. Become familiar with the red and white or blue and white diver-down flags signaling that divers are below the surface.
- Make sure that passengers are seated properly before getting underway. Some operators of larger boats with several passengers have caused injuries by putting the engine in gear while people were still swimming or diving from the boat.
- Never ride on a seat back, gunwale, transom, or bow.

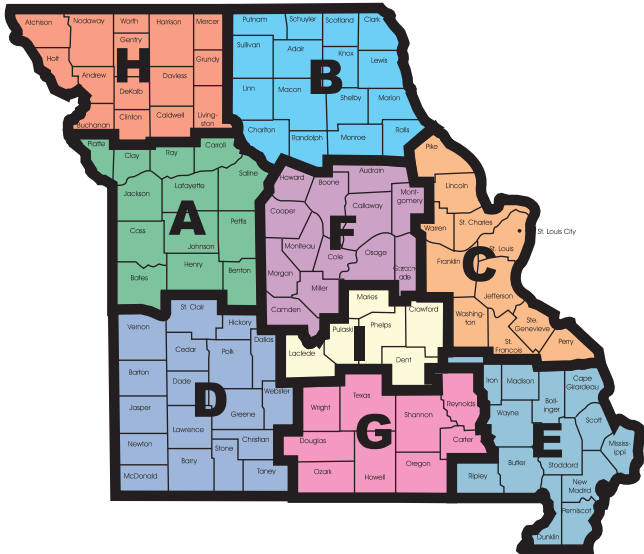
Devices That Reduce Propeller Strikes

There are several new technologies designed to reduce propeller strikes. The effectiveness of the devices varies, depending on the boat and the operating environment. For more information, visit the USCG's boating safety website at www.uscgboating.org/recreational-boaters.

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Troop List



| | | |
|----------------|----------------|--------------|
| Troop A | Lee's Summit | 816-622-0800 |
| Troop B | Macon | 660-385-2132 |
| Troop C | Weldon Spring | 636-300-2800 |
| Troop D | Springfield | 417-895-6868 |
| Troop E | Poplar Bluff | 573-840-9500 |
| Troop F | Jefferson City | 573-751-1000 |
| Troop G | Willow Springs | 417-469-3121 |
| Troop H | St. Joseph | 816-387-2345 |
| Troop I | Rolla | 573-368-2345 |



2023 Sunrise and Sunset Chart

Jefferson City, Missouri • Central Time

| | JAN | | FEB | | MAR | | APR | | MAY | | JUN | |
|-----|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|
| DAY | RISE • | SET | RISE • | SET | RISE • | SET | RISE • | SET | RISE • | SET | RISE • | SET |
| 1 | 7:26 | 4:58 | 7:14 | 5:30 | 6:41 | 6:01 | 6:54 | 7:32 | 6:12 | 8:00 | 5:46 | 8:27 |
| 2 | 7:26 | 4:59 | 7:13 | 5:32 | 6:39 | 6:02 | 6:52 | 7:33 | 6:10 | 8:01 | 5:46 | 8:28 |
| 3 | 7:26 | 5:00 | 7:12 | 5:33 | 6:38 | 6:03 | 6:51 | 7:34 | 6:09 | 8:02 | 5:45 | 8:28 |
| 4 | 7:26 | 5:01 | 7:11 | 5:34 | 6:37 | 6:04 | 6:49 | 7:35 | 6:08 | 8:03 | 5:45 | 8:29 |
| 5 | 7:26 | 5:02 | 7:10 | 5:35 | 6:35 | 6:05 | 6:47 | 7:36 | 6:07 | 8:04 | 5:45 | 8:30 |
| 6 | 7:26 | 5:02 | 7:09 | 5:36 | 6:34 | 6:06 | 6:46 | 7:36 | 6:06 | 8:05 | 5:45 | 8:30 |
| 7 | 7:26 | 5:03 | 7:08 | 5:37 | 6:32 | 6:07 | 6:44 | 7:37 | 6:05 | 8:06 | 5:44 | 8:31 |
| 8 | 7:26 | 5:04 | 7:07 | 5:38 | 6:31 | 6:09 | 6:43 | 7:38 | 6:04 | 8:07 | 5:44 | 8:31 |
| 9 | 7:26 | 5:05 | 7:06 | 5:40 | 6:29 | 6:10 | 6:41 | 7:39 | 6:03 | 8:08 | 5:44 | 8:32 |
| 10 | 7:26 | 5:06 | 7:05 | 5:41 | 6:28 | 6:11 | 6:40 | 7:40 | 6:02 | 8:09 | 5:44 | 8:32 |
| 11 | 7:26 | 5:07 | 7:04 | 5:42 | 6:26 | 6:12 | 6:38 | 7:41 | 6:01 | 8:10 | 5:44 | 8:33 |
| 12 | 7:26 | 5:08 | 7:03 | 5:43 | 7:25 | 7:12 | 6:37 | 7:42 | 6:00 | 8:11 | 5:44 | 8:33 |
| 13 | 7:25 | 5:09 | 7:02 | 5:44 | 7:23 | 7:13 | 6:36 | 7:43 | 5:59 | 8:12 | 5:44 | 8:34 |
| 14 | 7:25 | 5:10 | 7:01 | 5:45 | 7:22 | 7:14 | 6:34 | 7:44 | 5:58 | 8:12 | 5:44 | 8:34 |
| 15 | 7:25 | 5:11 | 6:59 | 5:46 | 7:20 | 7:15 | 6:33 | 7:45 | 5:57 | 8:13 | 5:44 | 8:35 |
| 16 | 7:24 | 5:12 | 6:58 | 5:47 | 7:18 | 7:16 | 6:31 | 7:46 | 5:56 | 8:14 | 5:44 | 8:35 |
| 17 | 7:24 | 5:14 | 6:57 | 5:49 | 7:17 | 7:17 | 6:30 | 7:47 | 5:55 | 8:15 | 5:44 | 8:35 |
| 18 | 7:24 | 5:15 | 6:56 | 5:50 | 7:15 | 7:18 | 6:28 | 7:48 | 5:54 | 8:16 | 5:44 | 8:35 |
| 19 | 7:23 | 5:16 | 6:54 | 5:51 | 7:14 | 7:19 | 6:27 | 7:49 | 5:54 | 8:17 | 5:44 | 8:36 |
| 20 | 7:23 | 5:17 | 6:53 | 5:52 | 7:12 | 7:20 | 6:26 | 7:50 | 5:53 | 8:18 | 5:44 | 8:36 |
| 21 | 7:22 | 5:18 | 6:52 | 5:53 | 7:11 | 7:21 | 6:24 | 7:51 | 5:52 | 8:19 | 5:44 | 8:36 |
| 22 | 7:22 | 5:19 | 6:51 | 5:54 | 7:09 | 7:22 | 6:23 | 7:52 | 5:51 | 8:19 | 5:45 | 8:36 |
| 23 | 7:21 | 5:20 | 6:49 | 5:55 | 7:08 | 7:23 | 6:22 | 7:53 | 5:51 | 8:20 | 5:45 | 8:37 |
| 24 | 7:20 | 5:21 | 6:48 | 5:56 | 7:06 | 7:24 | 6:20 | 7:54 | 5:50 | 8:21 | 5:45 | 8:37 |
| 25 | 7:20 | 5:22 | 6:46 | 5:57 | 7:04 | 7:25 | 6:19 | 7:55 | 5:50 | 8:22 | 5:45 | 8:37 |
| 26 | 7:19 | 5:24 | 6:45 | 5:58 | 7:03 | 7:26 | 6:18 | 7:56 | 5:49 | 8:23 | 5:46 | 8:37 |
| 27 | 7:18 | 5:25 | 6:44 | 5:59 | 7:01 | 7:27 | 6:16 | 7:57 | 5:48 | 8:23 | 5:46 | 8:37 |
| 28 | 7:17 | 5:26 | 6:42 | 6:00 | 7:00 | 7:28 | 6:15 | 7:57 | 5:48 | 8:24 | 5:47 | 8:37 |
| 29 | 7:17 | 5:27 | | | 6:58 | 7:29 | 6:14 | 7:58 | 5:47 | 8:25 | 5:47 | 8:37 |
| 30 | 7:16 | 5:28 | | | 6:57 | 7:30 | 6:13 | 7:59 | 5:47 | 8:26 | 5:47 | 8:37 |
| 31 | 7:15 | 5:29 | | | 6:55 | 7:31 | | | 5:46 | 8:26 | | |

Listed times take into account daylight saving time.



| | JUL | | AUG | | SEP | | OCT | | NOV | | DEC | |
|-----|--------|------|--------|------|--------|------|--------|------|--------|------|--------|------|
| DAY | RISE • | SET | RISE • | SET | RISE • | SET | RISE • | SET | RISE • | SET | RISE • | SET |
| 1 | 5:48 | 8:37 | 6:10 | 8:19 | 6:38 | 7:39 | 7:04 | 6:52 | 7:35 | 6:09 | 7:07 | 4:48 |
| 2 | 5:48 | 8:37 | 6:11 | 8:18 | 6:39 | 7:37 | 7:05 | 6:50 | 7:36 | 6:08 | 7:08 | 4:48 |
| 3 | 5:49 | 8:37 | 6:12 | 8:17 | 6:39 | 7:36 | 7:06 | 6:48 | 7:37 | 6:06 | 7:09 | 4:47 |
| 4 | 5:49 | 8:36 | 6:13 | 8:16 | 6:40 | 7:34 | 7:07 | 6:47 | 7:38 | 6:05 | 7:10 | 4:47 |
| 5 | 5:50 | 8:36 | 6:14 | 8:15 | 6:41 | 7:33 | 7:08 | 6:45 | 6:39 | 5:04 | 7:11 | 4:47 |
| 6 | 5:50 | 8:36 | 6:15 | 8:14 | 6:42 | 7:31 | 7:09 | 6:44 | 6:40 | 5:03 | 7:12 | 4:47 |
| 7 | 5:51 | 8:36 | 6:15 | 8:13 | 6:43 | 7:30 | 7:10 | 6:42 | 6:41 | 5:02 | 7:13 | 4:47 |
| 8 | 5:52 | 8:35 | 6:16 | 8:11 | 6:44 | 7:28 | 7:11 | 6:41 | 6:43 | 5:01 | 7:13 | 4:47 |
| 9 | 5:52 | 8:35 | 6:17 | 8:10 | 6:45 | 7:26 | 7:12 | 6:39 | 6:44 | 5:00 | 7:14 | 4:47 |
| 10 | 5:53 | 8:35 | 6:18 | 8:09 | 6:46 | 7:25 | 7:13 | 6:38 | 6:45 | 5:00 | 7:15 | 4:47 |
| 11 | 5:54 | 8:34 | 6:19 | 8:08 | 6:46 | 7:23 | 7:14 | 6:36 | 6:46 | 4:59 | 7:16 | 4:47 |
| 12 | 5:54 | 8:34 | 6:20 | 8:07 | 6:47 | 7:22 | 7:15 | 6:35 | 6:47 | 4:58 | 7:17 | 4:48 |
| 13 | 5:55 | 8:33 | 6:21 | 8:05 | 6:48 | 7:20 | 7:15 | 6:33 | 6:48 | 4:57 | 7:17 | 4:48 |
| 14 | 5:56 | 8:33 | 6:22 | 8:04 | 6:49 | 7:19 | 7:16 | 6:32 | 6:49 | 4:56 | 7:18 | 4:48 |
| 15 | 5:56 | 8:32 | 6:23 | 8:03 | 6:50 | 7:17 | 7:17 | 6:31 | 6:50 | 4:55 | 7:19 | 4:48 |
| 16 | 5:57 | 8:32 | 6:23 | 8:02 | 6:51 | 7:15 | 7:18 | 6:29 | 6:51 | 4:55 | 7:20 | 4:49 |
| 17 | 5:58 | 8:31 | 6:24 | 8:00 | 6:52 | 7:14 | 7:19 | 6:28 | 6:52 | 4:54 | 7:20 | 4:49 |
| 18 | 5:59 | 8:31 | 6:25 | 7:59 | 6:53 | 7:12 | 7:20 | 6:26 | 6:54 | 4:53 | 7:21 | 4:49 |
| 19 | 5:59 | 8:30 | 6:26 | 7:58 | 6:53 | 7:11 | 7:21 | 6:25 | 6:55 | 4:53 | 7:21 | 4:50 |
| 20 | 6:00 | 8:29 | 6:27 | 7:56 | 6:54 | 7:09 | 7:22 | 6:24 | 6:56 | 4:52 | 7:22 | 4:50 |
| 21 | 6:01 | 8:29 | 6:28 | 7:55 | 6:55 | 7:07 | 7:23 | 6:22 | 6:57 | 4:52 | 7:22 | 4:51 |
| 22 | 6:02 | 8:28 | 6:29 | 7:53 | 6:56 | 7:06 | 7:24 | 6:21 | 6:58 | 4:51 | 7:23 | 4:51 |
| 23 | 6:03 | 8:27 | 6:30 | 7:52 | 6:57 | 7:04 | 7:25 | 6:20 | 6:59 | 4:51 | 7:23 | 4:52 |
| 24 | 6:03 | 8:26 | 6:31 | 7:51 | 6:58 | 7:03 | 7:27 | 6:18 | 7:00 | 4:50 | 7:24 | 4:52 |
| 25 | 6:04 | 8:25 | 6:31 | 7:49 | 6:59 | 7:01 | 7:28 | 6:17 | 7:01 | 4:50 | 7:24 | 4:53 |
| 26 | 6:05 | 8:25 | 6:32 | 7:48 | 7:00 | 6:59 | 7:29 | 6:16 | 7:02 | 4:49 | 7:25 | 4:54 |
| 27 | 6:06 | 8:24 | 6:33 | 7:46 | 7:01 | 6:58 | 7:30 | 6:15 | 7:03 | 4:49 | 7:25 | 4:54 |
| 28 | 6:07 | 8:23 | 6:34 | 7:45 | 7:01 | 6:56 | 7:31 | 6:13 | 7:04 | 4:49 | 7:25 | 4:55 |
| 29 | 6:08 | 8:22 | 6:35 | 7:43 | 7:02 | 6:55 | 7:32 | 6:12 | 7:05 | 4:48 | 7:26 | 4:56 |
| 30 | 6:08 | 8:21 | 6:36 | 7:42 | 7:03 | 6:53 | 7:33 | 6:11 | 7:06 | 4:48 | 7:26 | 4:56 |
| 31 | 6:09 | 8:20 | 6:37 | 7:40 | | | 7:34 | 6:10 | | | 7:26 | 4:57 |

Source: www.esrl.noaa.gov/gmd/grad/solcalc/

QUICK REFERENCE

Equipment Required by Missouri State Law



PWC

Vessel Less Than 16 Ft. Vessel 16 Ft. or Longer

| | | | |
|------------------------------------|-----|-----|-----|
| Certificate of Number on Board | ✓ | ✓ | ✓ |
| Validation Decal Displayed | ✓ | ✓ | ✓ |
| Boating Safety Identification Card | ✓ 1 | ✓ 1 | ✓ 1 |
| Wearable PFDs | ✓ 2 | ✓ 3 | ✓ 3 |
| Throwable Device | | | ✓ |
| Type 5-B Fire Extinguisher | ✓ | ✓ | ✓ 4 |
| ECOS | ✓ | ✓ | ✓ |
| Backfire Flame Arrestor | ✓ | ✓ 5 | ✓ 5 |
| Ventilation System | ✓ | ✓ | ✓ |
| Muffler | ✓ | ✓ | ✓ |
| Horn, Whistle, or Bell | | | ✓ |
| Skier-Down Flag | | ✓ 6 | ✓ 6 |
| Daytime VDSs | | | ✓ 7 |
| Nighttime VDSs | ✓ 7 | ✓ 7 | ✓ 7 |
| Navigation Lights | ✓ | ✓ | ✓ |

1. Required for all persons born after January 1, 1984, who operate any vessel on the lakes of the state. This includes non-residents of Missouri.
2. Those on PWC must *wear* a PFD at all times.
3. Children under the age of 7 years must *wear* a PFD at all times unless confined in a fully enclosed area.
4. Two Type 5-B fire extinguishers or one Type 20-B fire extinguisher is required for vessels 26 feet in length or longer (see the section “Fire Extinguishers” for vessels longer than 40 feet and/or with a fixed system).
5. Required on boats with inboard and stern drives.
6. Required for display whenever an occupant of the motorboat enters the water if on waters of the Mississippi River, the Missouri River, or Missouri lakes between the hours of 11 a.m. and sunset.
7. Required when boating on federally controlled waters.